SIXPENCE

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RESISTANCE CAPACITY OSCILLATOR.

... By Don Reed, VK2DR. ...

Here's the dope on a handy little gadget to use in conjunction with your BC set to convert it into an audio oscillator.

Nearly every ham is called upon to give a spot of code practice these days, and this little adaptor will make it simple to get a nice sweet audio tone from your receiver.

Apart from code instruction purposes the feedback principle outlined below may readily be utilised in design of a service oscillator. There's no need to waste A.R. space by going into all the useful applications an audio oscillator can be put to, so lets get down to business .

First of all, please excuse me for delving into fundamentals a bit. It is chicken fodder to most Institute Members, but I'll get myself tied up if I don't start from the beginning...

A vacuum tube will oscillate if the output voltage, already 180 degrees out of phase with the control grid voltage, is made to change phase a further 180 degrees and fed back to the grid, PROVIDED that the voltage fed back exceeds the reciprical of the gain of the tube.

Changing phas e sounds difficult but actually its a snack. It has already been pointed out that grid and plate voltages are 180 degrees out of phase. Now a further phase rotation of 90 degrees exists between plate and earth. If we tap off half way between plate and earth then the rotation is only 45 degrees instead of 90. Simple.

To decide the required frequency of audio oscillation is the next step. For testing purposes 400 cycles is the most useful frequency as it is the generally accepted standard. For code practice most of the boys like 500 or 600 cycles best. Lets take 600 cycles as our example.

The reactance of a condenser of (say) 0.01 mfd at 600 cycles is near enough to 30,000 ohms. If the condenser of 0.01 mfd capacity and a resistor of 30,000 ohms are connected in series

between plate and earth it is apparent that the reactance of the condenser will be the same as the resistance of the resistor at the frequency of 600 cycles. Take a tapping from the centre of these two and presto, there's the 45 degrees.

So far we have 180 degrees (grid to plate) plus 45 degrees which equals 225 degrees, just 135 short of the 360 degrees required. 135 is three times 45 so just connect up three more condenser resistor combinations and 360 degrees phase rotation is in the basket. SEasy. Feed it back to the grid and provided the voltage gain in the tube is sufficient to overcome the losses in the feed-back network a nice clean sweet 600 cycle note will be forthcoming.

In the above example, unless the voltage gain of the stage is over 16 there will be insufficient feedback to generate oscillations. That is easily explained if we consider that by tapping down the first condenser resistor combination half way we are only obtaining half the A.C. voltage, the next combination reduces this figure to a quarter and so on until 1/16th of the voltage is available at the centre point of the fourth combination.

Any Screen-grid or Pentode voltage amplifier will have ample gain in hand to do the trick. Even some power amplifier pentodes will pork OK.

Well thats the principle of operation. Oh no, its not original. It was first suggested in an article appearing in Proc. I.R.E. (USA) back in 1938 but possiblyvsome of the gang are not wise to it yet.

Working out reactance values of condensers puts a nasty taste in the mouths of those of us not mathematically inclined, so to avoid the grind here's a useful rule of thumb.

A condenser of 1 mfd has a reactance of approx 400 ohms at 400 cycles. (389 ohms to be exact). Reactance varies inversely with frequency and with capacity,

$$Xc = \frac{1}{2 \text{ pi } FC}$$

so it is easy to mentally pick out the approx reactance of a large range of condensers at various frequencies by applying the above rule.

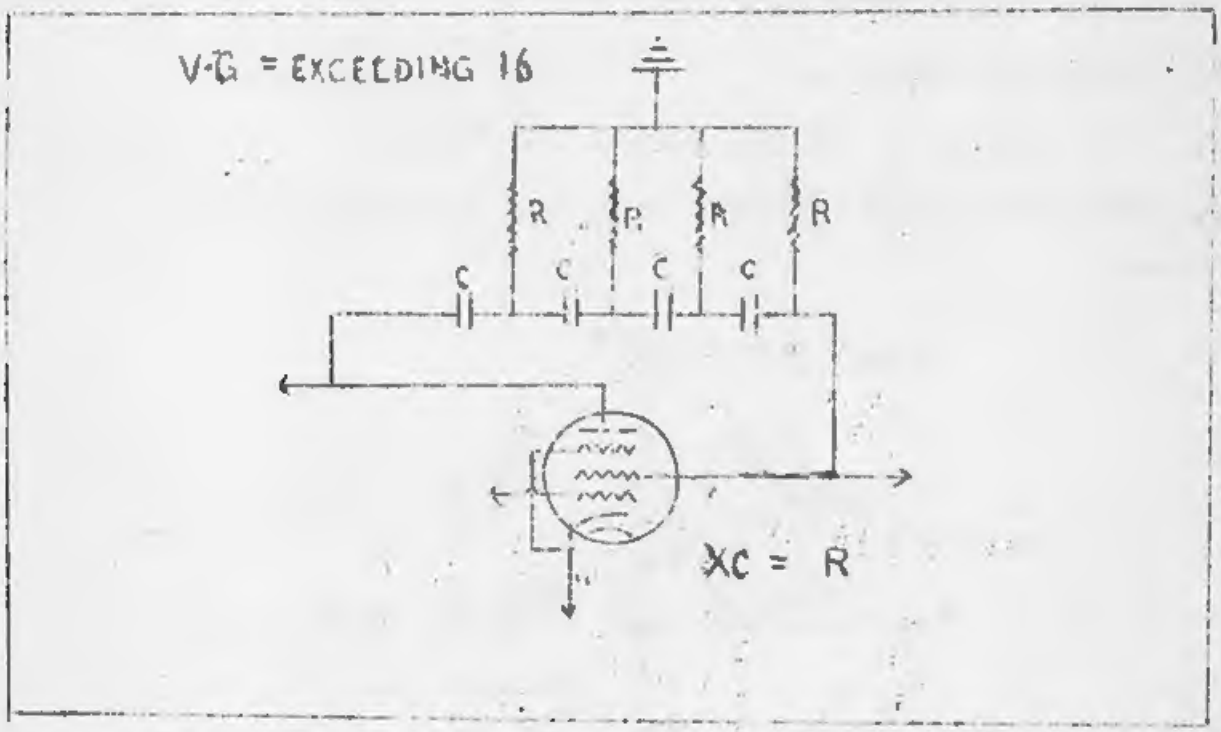
For example, if 1 mfd at 400 cycles = 400 ohms
then 0.1 " " " " = 4000 "
0.01" " " " = 40000 "
.01" " 600 " = 30000 " $\left(\frac{40000 \times 400}{600}\right.$

above are approximate values but quite near enough for all practical purposes. After all, manufacturers don't forget the margin of deviation from standard allowed in their components before putting them on the market!

When buying resistors and condensers for the above network, try to get values as near to balance as you can, to keep the wave form generated as uniform as possible, and to keep near to the

required frequency, however the tube will oscillate even with quite large deviation from calculated values.

It seems a bit superfluous going into details of construction of an adaptor using the above principle. For the languid, I suggest using an old valve base with the four resistors and four condensers on top of it, a couple of terminals for a Morse key and a valve socket perched atop to take the Adapted valve of the B.C. set. Then it is a simple matter to lift out the audio valve, plug in the adaptor with the valve on top, hook up the key and you're away.



July issue of Q.S.T. informs us that the A.R.R.L has succeeded in obtaining permiss ion for the establishment of the War Emergency Radio Service. The framework closely resumoles that of the Emergency communication Network here in New South Wales and main difference being that the frequencies to be used will be 112-116, 224-250 and 400-401 mcs. A very strict set of Regulations dealing with operations have been drawn up and incorporated in the F.C.C. Rules. Care has been taken to see that the state of affairs does not arise again when several thousant amateurs stations were reactivated after Pearl Harbor.

RESISTANCE NETWORKS SOLVED BY SUCCESSIVE APPROXIMATION.

By R. A. PRIDDLE, VK 2RA.

The following method for the determination of current and voltage distribution in a network of known resistances was recently evolved at 2 R A and may be of interest. It may be applied to networks of any complexity without making circuit "transformations", and may be carried to any desired degree of accuracy.

Assume that the network shown in Figure 1 is to be investigated, with 300 volts applied between A and E, and a load of resistance 20000 ohms connected between C. and E.

We require to find: -

1. The voltage developed across the load.
2. The total current drain from the 300-volt supply.

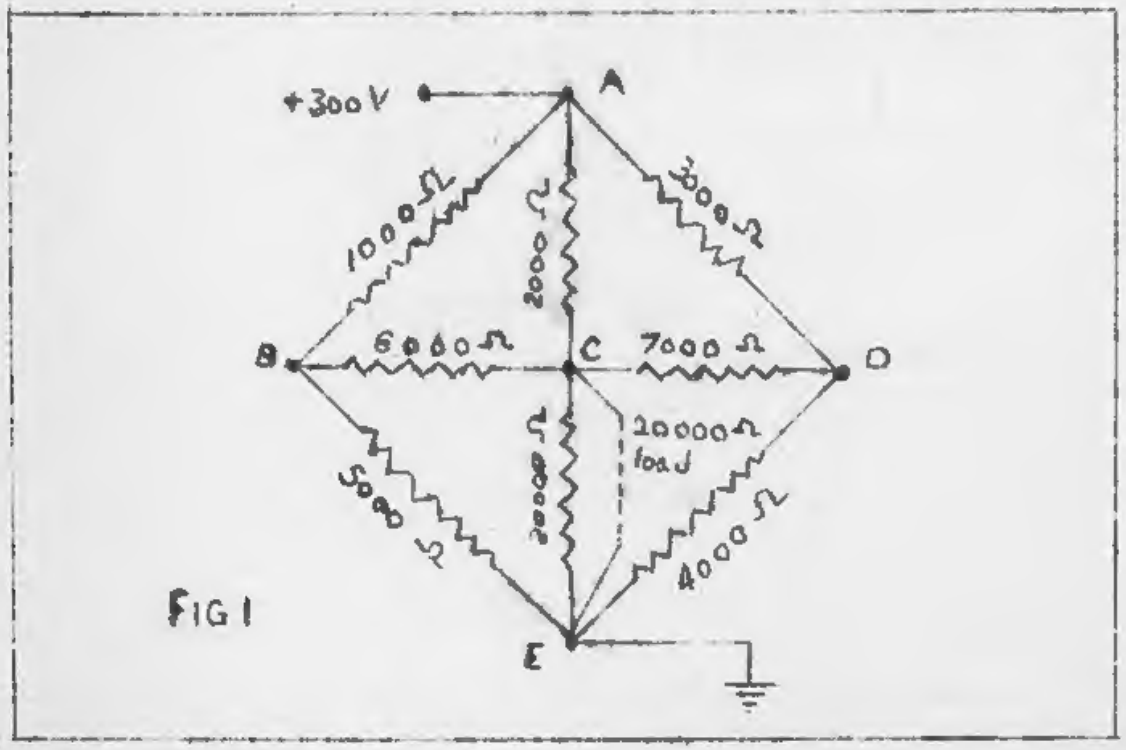


FIG 1

INITIAL STEPS:

(a) Draw a reasonably large diagram of the network, treating the load as an ordinary resistor.

(b) Calculate the conductivity ($\frac{1}{R}$) of each resistor and enter it on the diagram (e.g. for 6000 ohm resistance, conductivity = $\frac{1}{6000}$ mhos = 167 micromhos approximately).

(c) Calculate for each joint the ratios of the conductivities of all the resistors connected at the joint (e.g. for joint C we have

conductivities of 167, 500, 143, 50 and (load) 50 micromhos - total 910 micromhos, so that the ratios are $\frac{167}{910}$ = 0.18, $\frac{500}{910}$ = 0.55, $\frac{143}{910}$ = 0.16, 0.055 and 0.055 approximately).

(d) Enter these ratios on the appropriate resistor at each joint. As seen later, these ratios may be considered as "distribution factors."

(e) Apply arbitrary voltages at each joint. A reasonable estimate, based on inspection, of the voltages likely to be present will reduce the subsequent work, but this is not essential to the accuracy of the method. In other words, any voltages may be assumed. In the present example, assume voltages as follows:-

A. (known voltage) 300 V, B 250 V, C 250 V,
D. 150 V and E (known voltage) 0 V.

(f) The current flowing in any resistor will now be $\frac{E}{R}$ i.e. E x conductivity, so compute the current for each resistor, showing currents as positive when flowing towards a joint and negative when flowing away from a joint. (e.g. in resistor C - D, current = $\frac{(250-150) \times 143}{1000}$ = 14 m.a. approx., and this is negative at C and positive at D since it flows from C to D). It will be found convenient to write the currents round each joint in some regular position. In the example this position is found by moving counter-clockwise from the resistor concerned, so that at the left end the current appears just above the resistor, at the bottom end it is shown just to the left of the resistor, and so on. When the above stages are completed, the diagram appears as in Fig. 2.

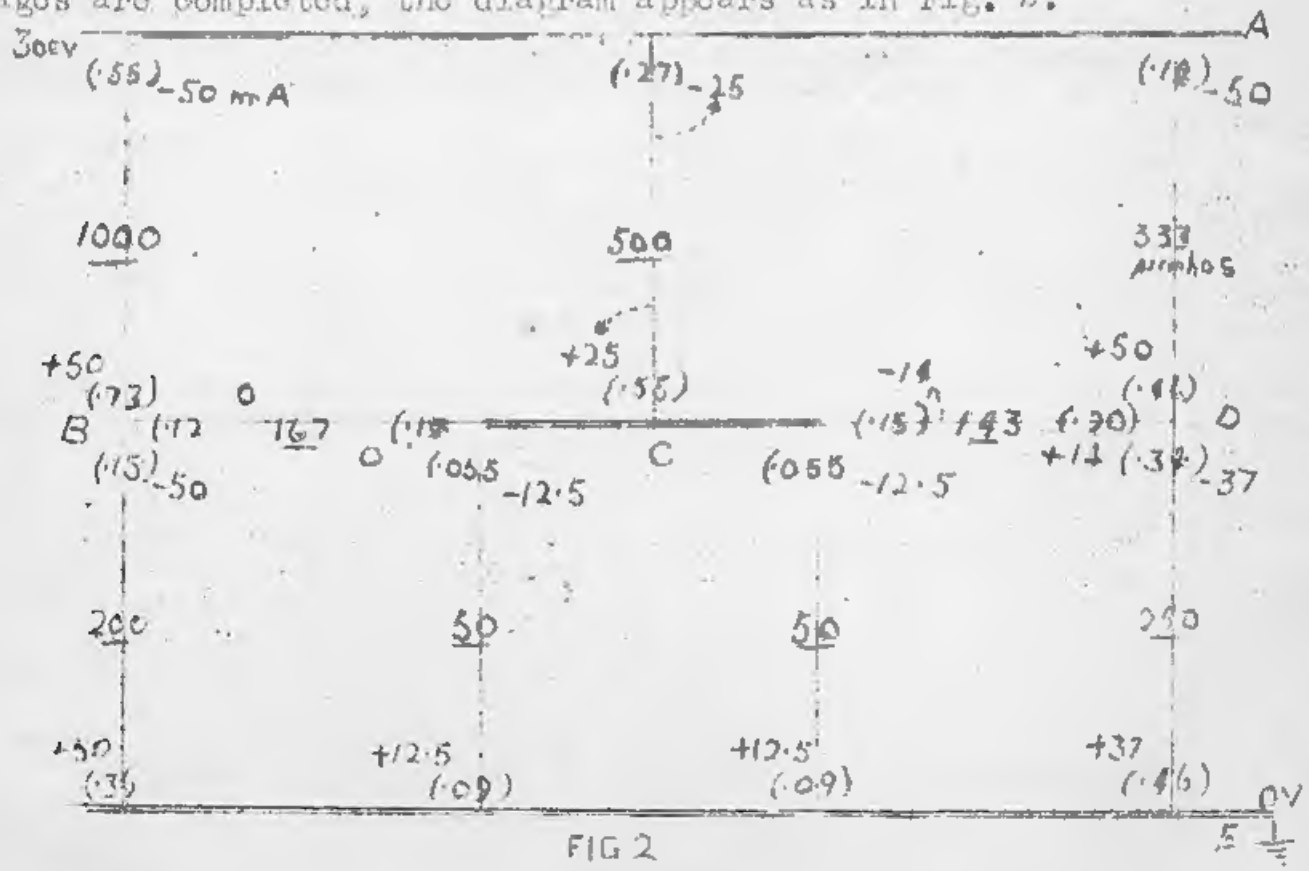


FIG 2

The currents in milliamperes shown on this diagram are the currents which would actually flow in the resistors if the joints were held at the potentials assumed in step (e).

However, a study of Fig. 2 shows that at any joint the total of the currents flowing towards the joint does not balance the total of the currents flowing away from the joint (e.g. at I, the positive currents flowing towards the joint are + 14 + 50 = + 64 ma and the negative current flowing away from the joint is - 37 ma, so that there is an excess current of + 27 ma flowing toward the joint, which is impossible).

Suppose the potential of this joint to be raised by 10 volts, leaving all other joints at their original potentials. Then there will be induced changes in current of $\frac{10 \times 143}{1000}$ = 1.43 ma towards C, $\frac{10 \times 333}{1000}$ = 3.33 ma towards A and $\frac{10 \times 250}{1000}$ = 2.5 ma towards E. All these will be negative since they flow away from D. The total of these is - 7.26 ma, so to counteract the original unbalance of + 27 ma we would need to raise the potential at D by $10 \times \frac{27}{7.26}$ = 37.2 volts, giving current changes of 1.43 x 3.72 = 5.3 ma, 3.33 x 3.72 = 12.4 ma and 2.5 x 3.72 = 9.3 ma flowing towards C, A. and E. respectively. Note, however, that these currents can be deduced without first computing the voltage change, by merely "distributing" the unbalanced 27 ma. in the same ratio as the conductivities at D. Thus 27 x 0.2 = 5.4 ma, 27 x 0.46 = 12.4 ma and 27 x 0.34 = 9.2 ma. The apparent discrepancies of 0.1 ma are due to the approximations made in step (c). The ratios 0.2, 0.46, 0.34 are seen to be current "distribution factors."

By entering the above negative current changes in the appropriate position on the diagram, the currents at Joint D will be temporarily balanced.

Now in resistor D C, the current change of - 5 ma flowing away from D also means a current change of + 5 ma flowing towards C, and similarly there will be current changes of + 13 ma at A and + 9 ma at E. If these current changes are "carried over" to the far ends of the respective resistors, another joint can then be "balanced" in a similar manner, and the process can be repeated until all joints are balanced, when the final current in any one resistor may be determined by adding all the partial currents found during the solution. The example shown in Figs. 1 and 2 will now be completed by performing "distributions" and "carry-over" as outlined above.

CONCLUDING STEPS:

(g) By inspection select the joint which has the greatest unbalance (+ 27 ma at Joint D in the example). Choosing the largest unbalance makes the solution more speedy, but the same accuracy will be achieved whatever the sequence in which joints are balanced.

(h) "Distribute" the unbalanced + 27 ma as shown above, and enter the current changes of - 5 ma, - 13 ma and - 9 ma on resistors D C, D A and D E respectively. Draw a short line above or below the entry to indicate temporary balancing of Joint D.

(j) "Carry Over" these current changes to the far ends of the appropriate resistors.

(k) Again select the greatest unbalance (- 9 ma at Joint C in this example).

(l) "Distribute" this unbalance by using "distribution factors" (9 x 0.18 = 2 ma from B, 9 x 0.55 = 5 ma from A, 9 x 0.16 = 1 ma from D and 9 x 0.055 = 0.5 ma from E in 20000 ohm resistor and also in the load).

(m) "Carry over" these current changes to the far ends of resistors.

(n) Repeat (k), (l) and (m) for the - 2 ma unbalance at Joint B.

(p) Repeat (k), (l) and (m) for the - 1 ma unbalance at Joint D.

At this stage, working to the nearest 1 ma, all the joints are unbalanced.

(q) Add the partial currents at each end of each resistor and put circles round the totals for clarity. The currents so found should be equal at each end of any resistor but opposite in sign, and they will be the currents actually flowing in the network. At this stage the complete network appears as in Fig. 3.

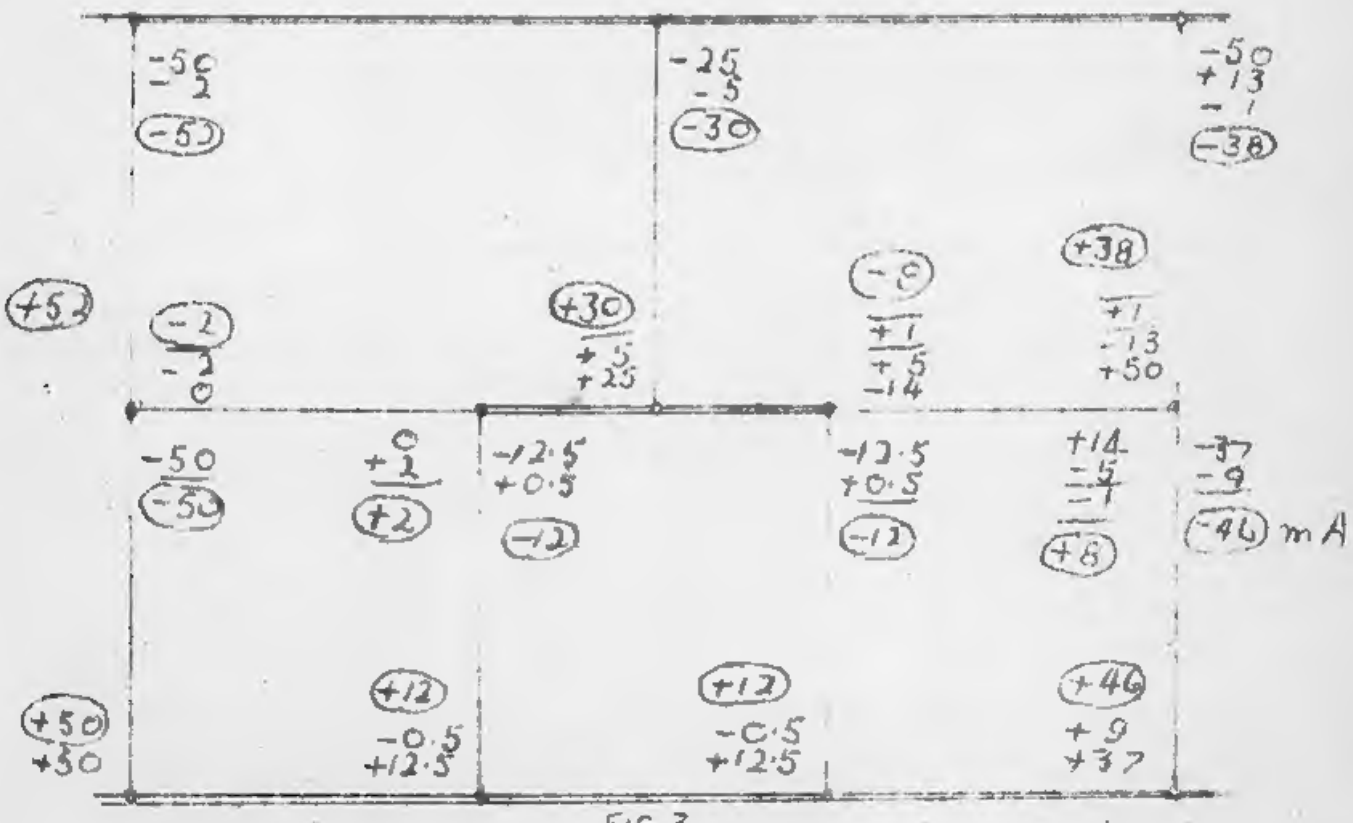


FIG 3

Preliminary information obtained from steps (b),(c),(d) and (e), which appears on Fig 2, has been omitted for clarity.

Voltages may be readily determined by application of Ohm's Law, thus:-

(r) Voltage developed between VC and E is $\frac{12 \times 20000}{1000}$ = 240 volts which is the first answer required.

(s) Current drain from + 300 volt wire is 52 + 30 + 38 ma = 120 ma and as a check the current flowing into earth wire is 50 + 12 + 12 + 46 = 120 ma so that the total drain from the supply is 120 ma. This is the second answer required.

The accuracy of these answers is better than ½ per cent, although several approximations have been made.

CONCLUSION:

The method outlined above may appear to be very complicated, but with the aid of a slide rule the network can be solved in less time than it takes to describe.

The degree of approximation to be allowed depends on the accuracy required in the final answer, and networks of any complexity can be solved to any accuracy desired. For results within, say 5-10 per cent one "distribution" at each joint will usually be sufficient, especially if the original voltages assumed in step (a) are chosed carefully.

A slight variation in the method which is often advantageous, especially in symmetrical networks, is to "distribute" at all the unbalanced joints before "carrying over" and then "carry over" throughout the network. This method is preferred where an approximate solution is to be found by making only one "distribution" at each joint, as no "carry over" is then necessary.

It is suggested that readers test the effect of various assumptions of voltages (step (e)) and different sequence of joint distribution (step (g)) by solving a combination of say four equal resistances in series. The "distribution factors" will obviously be 1 at each outer end and ½ at each side of each intermediate joint. Assume voltages of say 100 - 75 - 50 - 25 - 0; 100 - 100 - 100 - 100 - 0; 100 - 0 - 0 - 0 - 0; 100 - 50 - 50 - 50 - 0 and complete the solution in each case. It will be found that the same final answer will be reached in each case, but that the number of operations required will vary, depending on how closely the initial assumptions agree with the correct voltage distributions.

It is not suggested that resistances in series or resistances in parallel should be solved by this method, but for more complex layouts some merit may be found in "Current distribution."

SLOUCH HATS and FORAGE CAPS

By VK2YC

News this month consists of just nothing, the only way to portray that is a nice blank page adorned with an ugly looking question mark, and "THIS MEANS YOU." But that is not fair to some ham way out in NW Australia waiting for any kind of news, particularly some about his former QSOs. For the last couple of months I have carefully refrained from approaching the few consistent chaps who can always be relied on for news and the result is "just nothing." Now chaps the ham game has always been, and will always be what we all, collectively and individually, make it. And Amateur Radio is at the moment our only barometer of that interest, and gloomy WX ahead seems to be the prediction. Of course, I know you chaps in the Services are busy, but so are we who are unlucky enough to be as yet in these essential (whatever that is) services. Most of us contributing to this Magazine are at present doing about three other jobs besides. We, for what we think, the good of Ham Radio MAKE the time. ..how about YOU?

Where are all these State representatives that were to be appointed to collect news for this column....so far not a line has reached this address. Anyway think it over during the next month or so and if there is no news forthcoming, we will take it you members of the W.I.A. want this page discontinued.

From VK2 HC I learn he has forsaken Bradfield and is now stationed at Wagga. His "boss" is his cousin and one time pupil in Ham Radio, Johnny Traill of 2XQ. Ray you might remind Johnny about that "Malaya feature" for my column, sling your weight about. Hi! Sgt. Patrick who trained many a VK ham at Ultimo N.S.W. is, I believe also stationed there.

Bill Lewis 2 YB/6YB...A W/O when I last saw him has started the next generation of the Lewis family with a daughter. Congrats Bill, om, Ruth and I want the formula when you next come down from VK4.

Ray Jones 3RJ has once more forsaken VK2 for VK3 so once more I have to type my own notes. You know thinking of the RAAF gives me a good idea. If only Vaughan could remember he was once a keen contributor to Amateur Rad io he could tell us just where everybody is, and think what an easy job filling this column would be then.

2ADE once 4US is back in Australia, getting back almost as quick as a letter he posted in January last. Reading the RSGB Bulletin I notice one thing he did not tell us in his letter. He was married to an English girl while he was away. Congratulations Chas. om.. .every happiness to you both.

2ADE went away with No. 10 Squadron over two years ago, being among the first of the RAAFWR to get away. He seems to have had a

pretty hectic time during those 1200 flying hours of his. Naturally for security reasons, very little can be told till after the War. During one of the periods of duty in the Middle East, where if I remember rightly he was wounded slightly, he contracted dysentery, a very easy thing to do over there and spent three months in hospital. Then in broke five ribs and went back again and there must have been something about the Nursing in that hospital, for otherwise its hard to discover why he at once broke all five ribs just (apparently) to return for another month or so. Gee, Chas. I hope you've told your yf this story. Hi!

2ADE really is one of those chaps most Hams in the Services hope to be.....a chap who has met his DX. To use his own words, he has met SP/OK/SV/ SU/ F8/I4/PAo 7 hours of others plus a "few" yanks (shades of 40 & 20 M.) and VE's. He is enthusiastic about his meeting with G hams, G2IG, [illegible] and G6OL being especially mentioned as "kindness personified," so apparently there is some Ham Spirit over there right enough. And now, VK2ADE is back home again where, quoting [illegible] again "one can have a real sleep in bed without the feeling of tension and of being keyed up all the time.

Fl/Lieut Fred Bibby 3DJ spends his working hours with the RAAF somewhere in VK3, while 3DC Lieut. Stewart Embling is attached to SO in C's Staff at LHQ. One of VK3's old 200 metre experts 3FW sports a pair of stripes on a RAAF Uniform, stationed at Headquarters. 2AFL Eric [illegible] was seen in [illegible] recently. Eric is a member of the RAAF and expects by this time to be in VK2.

It seems to me that most of the VK3 Hams are in the RAAF 'cause 3RG, Roy Streeter is an LAC stationed in Australia's near north, and another of the VK3 Old Timers of the 200 mx band, 3TM has recently enlisted; 3KW, Fl/Sgt Blyth is in VK2. Still another 200 mx merchant Len Moncur has joined the RAAF. Ivor Stafford one of VK4's low power experts is a corporal of the RAAF and is now somewhere in the Northern Territory.

Keith Heaton late 2nd Op at 3AR entertained the VK3 meeting recently with an account of his escape from the HMAS Canberra. Keith was full of praise for the members of the US Naval personnel on the destroyer which took them off the sinking Canberra.

Corporal H.A. Vining 3VG of sale has returned from service in Egypt, Greece and Crete, but was quickly stationed somewhere in Australia.

Lastly but most importantly....where is YOUR news...you've read what others sent in...how about what you know. Sources of suppl y kept confidential if comments humorous and not malicious HI.

2YC 78 Maloney St.,
EASTLAKES. N.S.W.

D I V I S I O N A L N O T E S.

.. Federal Headquarters ..

During recent weeks it has been brought under the notice of Federal Headquarters certain proposals for the re-organisation of the Radio Trade, particularly that section dealing with the Servicing of Receivers, that have been placed before the Department of War Organisation of Industry, by a section of the Radio Industry.

Like all other industries, Radio is being combed in order to conserve Manpower and make any surplus available for the Forces, but if the suggested proposals were to be adopted in their present form, it would seem that a monopoly would be created, in so far as the right to do Service work and the ability to obtain replacement parts was concerned.

Briefly the suggestions, it is understood, are as follows:- That all States are to be Zoned. Each Serviceman to be given a Zone. That all Servicemen are to be Licensed. They will be the only persons permitted to obtain Spare Parts. That Licences will only be issued to certain Trade Organisation.

Of course it is realised that in some areas there are quite a number of Servicemen and in others insufficient to carry out repairs and generally keep a receiver in good working order, and the suggestion that each Serviceman be given a definite zone to be responsible for, has its advantages, but nevertheless the fact is lost sight of that to-day, quite a number of Licensed Experimenters are carrying out Service work in their spare time and if it is proposed to disregard these Amateurs an additional burden would be thrown on the Licensed Servicemen so much so that it would be doubtful if any could be released for war work.

The main objection to these proposals is the suggestion that only Licensed Servicemen will be able to obtain spare parts. It is understood that this suggestion was made in an endeavor to prevent the building of new receivers by means of kit sets! Actually it means that any person with some knowledge of Radio finds that a Resistor or Condenser, value less than 2/- in many cases, has broken down making his Receiver inoperative. He cannot purchase a replacement. He must call a Serviceman. This is the case of Mr. General Public. Consider Bill Jones, VK2XYZ Licensed Experimenter, B.Sc. A.M.I.E. etc. possessing more technical ability, knowledge and practical experience than the average Serviceman. He is placed in the same position as a member of the public, having little or any knowledge of Radio!

Federal Headquarters has written to the Department of War organisation of Industry pointing out the part-time Service work

that is at present being carried out by Amateurs in the interests of the community and asking that they be considered should it be decided to issue Licences. A strong protest was lodged against the proposal that only Licensed Service men should be able to obtain spare parts and it was suggested to the Minister that should he deem it necessary to control the sale of spare parts any person desiring to purchase these components should make a declaration that they are for replacement purposes only.

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The Emergency Communication Network.

By the time that Members read this it is anticipated that the Network will be in full swing. Permission has been granted for the release of the necessary equipment and a considerable amount of activity is everywhere apparent. As one member of the R.I's staff put it "The YLs and XYLs have had a break since 1939 but now its starting all over again."

For the benefit of those Members at present on the Reserve of Operators here is a brief description of the outlying stations. The transmitter is a four stage crystal controlled rig using three 6F6's or equivalent type with an 807 as a P.A. Before deciding upon this line up many types of "trick circuits" were considered, but eventually it was decided that the stability of a straight out C.O. far out-weighed the "advantages" of other types. The R.F. Section is mounted on two separate chassis, the Driver stages on one chassis and the P.A. on another. The Receiver is a super-regen, with a stage of R.F. using 3 type 6J7's and a 6F6. The audio end of the Receiver is used to modulate the 807. Two power supplies are provided for, one of which is independent of the A.C. Mains. The Antenna is a three element beam. These units are enclosed in a Rack.

The control station is a higher powered transmitter using 808's (running stone cold unfortunately) and the anteonna is a full wave Zepp 85 feet above ground.

When all installations are completed at Control members of the Network will be given an opportunity of inspecting the Radio Room.

Here is a list of Amateurs at present actively engaged in the scheme:-

H. Peterson	VK2HP	W.P. Nelson	VK2KH	A.M.Moss	VK2QY
H.P. Mulligan	VK2ABH	P.G. Feeny	VK2AKX	G.Littlefair	VK2XV
I. Ballue	VK2TN	G. Paterson	VK2AHJ	P.Cox	VK2IE
G.W. Dukes	VK2FD	G.F.Cole	VK2DI	A.Bennett	VK2VA
E.G. Pugh	VK2ADK	L. Tanner	VK2ABL	G.Waldock	VK2QU
G.H.Shoolwy	VK2 QF	J.P.Keane	VK2JN	A.J.Springett	VK2OM
P.Dickson	VK2AFB	W.G.Ryan	VK2TI	R.A.Priddle	VK2RA
E.Hodgkins	VK2EH	E.Fallowfield	VK2AKI	T.W.Barnes	VK2ABI

L. Mashman	VK2OB	E.McCredie	VK2EV	K.F.Handel	VK2LA
R.J.Smith	VK2AIU	G.Caletti	VK2AHV	W .McElroa	VK2UV
C.Fryar	VK2NP	D.Dunn	VK2EG	J.Thompson	VK2XP
E.Treharne	VK2AIQ	R.Treharne	VK2AIQ	J.Davis	VK2AFY
J.H. Patterson	VK2AFG	H.Lapthorne	VK2HL	D.W.Reed	VK2 DR
J.McNamara	VK2EQ	R.W.Patterson	VK2AJW	J.Georgeson	VK2AKU
E.J.Dark	VK2ADQ	R.Mondel	VK2	H.Mondel	VK2

News is to hand that the South Australian Division have been successful in obtaining permission for the formation of an Emergency Communication Network in that State.

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NEW SOUTH WALES DIVISION.

The October General Meeting of the Division was given over to a Picture Night in aid of the VK2. Prisoner's of War Fund. Unfortunately the attendance was not as large as anticipated due to the drought breaking rains experienced during that week, but nevertheless the sum of £12/17/- has been raised to date and subscriptions are still coming in. Hats off to the brave band of XYL's who braved the elements in order to be present. The show was made possible through the generosity of Messrs. Noad and Bennett and they are to be complimented upon the fine programme prepared particularly "North Sea."

A recent visitor to VIS was Staff Sergeant Cec. Horne VK2AIK of the 13th. Garrison Battalion. Cec was at one time Divisional Secretary, but decided to join up in an endeavor to obtain a little peace and quietness and to be free from worry for awhil e. Cecil has been "holidaying" at a certain northern "tropical paradise." 2AIK has been having the time of his young (?) life, what with mosquitoes as big as Flying Fortresses and machine guns to keep the sharks at a safe distance.

Two other visitors were John Thorley VK4RT and Lieutenant Pat Kelly pas t secretary's of the VK4 Division of the W.I.A. The writer would like to know who spoilt a certain photographic effort so much so that the shutter failed to click!

A very welcome letter arrived a few days ago from Morry Lusby VK2WN who was at th t time in the U.S.A. 2WN has been getting about quite a great deal and has travelled over 10,000 miles by air. On a visit to Radio City he was interviewed before the "mike" and gave a wonderful description of the "colony" that he lived in before the announcer realised that his leg was being pulled rather lengthily. This interview by the way, was from a television studio. Morry would like to hear from old friends and letters should be addressed to him C/o Australian Legation, Washington, D.C.

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VICTORIAN DIVISION

The Victorian Division's Membership has risen to almost pre-war level, a fact which leads one to believe that ex Hams are well aware of the work that the Institute is doing in looking after the interests of the Ham fraternity and radio in general. The Treasurer will be very pleased to see more membership fees in the mail.

Members are reminded that the next meeting of the Division will be held on the first Tuesday in December. Now don't slip up on that date its the FIRST OF DECEMBER.

The Victorian Division is considering the purchase of a reliable comptometer....for the exclusive use of Mr. H.N.Stevens VK3JO...Herb has been in very hot water over his adding up???? Maybe its the reason why he didn't show his face at the meeting... We suspect that he has been trying to bend water pipe over his knee, or perhaps he has been going down on his knees to one of the "snappy" YL morse students.

Keith Heitsch 3HK is now on shift work at the Box Hill exchange. We don't see very much of him these days, but we learn that Keith is interested in photography these days.

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WESTERN AUSTRALIAN DIVISION.

P/O Geo. Rann (VK6KO) writing from Queensland advises having seen quite a few VK6 Hams, also has met quite a number from other States, including many Yanks. Amongst the VK6's met over there are VK6MW, 6MM, 6BO, and 6FH, all have either received promotion or are in line for it. All are working in the Radio Location side of the R.A.A.F.

VK6KB . Keith Anderson called the other day sporting two stripes, says he has been roaming around the State; also advises (Bill Woodley) is spending a period in hospital - we wish him a speedy recovery.

Little news is received from the VK6 boys at the fronts, but those on the home front are anxiously awaiting the word to go from the Civil Defence Council. A scheme has been put forward for the use of radio in the event of communication breakdown, and after months of negotiation is only waiting final approval by the P.M.G's Dept. A committee comprising of Geo. Moss (6GM) Cliff Brown (6CB) and Chas. Quin (6CX) has been appointed by the Civil Defence Council. They hope to be calling shortly for assistance in this project from other Members.

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